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Black-LED-630 Fiber Coupled RED LED Light Source

Introduction

The new compact fiber-coupled high power Red LED light source module at **630 nm** is an effective replacement of lasers and lamps in many applications, such as spectroscopy and inspection and component testing. This new member of the modular OptiBlocks family provides up to **18 mW** of CW power at fiber output (2000micron core POF fibers). The LED driver supports CW or external TTL modulation with user controllable frequency and duty cycle.



Features

- High Power
- Speckle free
- LED spectrum can be narrowed by optional band pass filter
- Compact and robust head: 50mm x 50mm x 40mm
- Reciprocal SMA, FC or ST fiber connection
- TTL external modulation
- Precisely adjustable power
- Long life (no lamp or laser tube replacement required)

Replacement of

- He-Ne red lasers
- Red Diode lasers
- Lamps

Applications

- Spectroscopy
- Fluorescence excitation Alexa Fluor 633, 635, Cy5, SYTOX Red,
- Bio analysis
- Component test and inspection



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Specifications

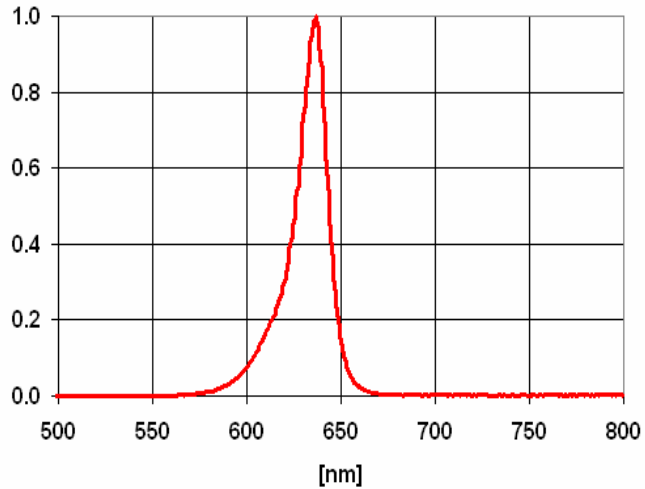
Peak wavelength: 635±5 nm Typ.

Centroid: 630±5 nm Typ

Spectrum half width: 20 nm Typ.

Power output:

Black-LED power output is limited by the reciprocal fiber characteristics. Larger core and higher NA will increase maximum power output, and vice versa.



The table below shows a few examples of the CW output power at different fibers:

Fiber brand	Fiber type ^{*1}	NA	Fiber Core Diameter	Output Power Typ. ^{*2}
Mitsubishi Rayon Super Eska SH8001	POF	0.5	2000 μm	18 mW
Mitsubishi Rayon Super Eska SH6001	POF	0.5	1500 μm	15 mW
Mitsubishi Rayon Super Eska SH4001	POF	0.5	1000 μm	13 mW

*1: Fiber length ~ 1 m; POF – Polymer Optical Fiber

*2: The measurement done by Ophir Nova II power meter equipped with PD300-UV head. The wavelength is set at 630 nm. The values are for non filtered Black-LED-630.

Optical output connector:

The Black-LED is available with SMA, FC or ST reciprocal fiber connector

Dimensions:

Black-LED head: 50mm x 50mm x 40mm

Black-LED controller: 75mm x 40mm x 120mm (W x H x L) without key switch and other extrusions

Power adaptor: 60mm x 35mm x 10mm (W x H x L)



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Benchtop LED Current Controller

Introduction

The Benchtop LED current controller has been designed to provide precisely controllable, low noise current for driving a variety of LEDs. The current controller can be configured to drive virtually any currently available LED including the high power LEDs, in constant current (CW) or chopping mode defined by external TTL input.



Features

- Constant current or chopping modes
- Precise LED current setting
- Safety features for HP and UV LEDs
- TTL external modulation
- Compact and robust enclosure

Specifications

Output current control range: 0-1000 mA

Output voltage: 1-15 V

Chopping frequency: DC – 10 KHz

Connector for LED: 9-pin D-type

Connector for TTL input: BNC

Input power supply: 24 VDC, 1 A

Power adaptor input: 100-240 VAC, 1 A, 47-63 Hz

Dimensions:

Controller: 75mm x 40mm x 120mm (W x H x L) without key switch and other extrusions

Power adaptor: 60mm x 35mm x 10mm (W x H x L)

